

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

11

PATENT NO. : 7,120,685 B2
APPLICATION NO. : 09/891584
DATED : October 10, 2006
INVENTOR(S) : Ullmann et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Delete the title page and substitute therefore the attached title page.

Figures 1-8 are replaced by the attached 9 Sheets with Replacement Drawings.

This certificate supersedes certificate of correction
issued May 5, 2009.

[REDACTED]

[REDACTED]

[REDACTED]



US007120685B2

(12) **United States Patent**
Ullmann et al.

(10) **Patent No.:** **US 7,120,685 B2**
(45) **Date of Patent:** **Oct. 10, 2006**

(54) **METHOD AND APPARATUS FOR DYNAMIC CONFIGURABLE LOGGING OF ACTIVITIES IN A DISTRIBUTED COMPUTING SYSTEM**

(75) **Inventors:** Lorin Evan Ullmann, Austin, TX (US); Rajeeta Lalji Shah, Austin, TX (US)

(73) **Assignee:** International Business Machines Corporation, Armonk, NY (US)

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 750 days.

(21) **Appl. No.:** 09/891,584

(22) **Filed:** Jun. 26, 2001

(65) **Prior Publication Data**

US 2002/0198983 A1 Dec. 26, 2002

(51) **Int. Cl.**
G06F 15/173 (2006.01)

(52) **U.S. Cl.** 709/224; 710/18

(58) **Field of Classification Search** 709/224, 709/204, 223; 714/48, 45; 719/318; 707/10, 707/200; 710/8; 377/26

See application file for complete search history.

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Primary Examiner—John Follansbee

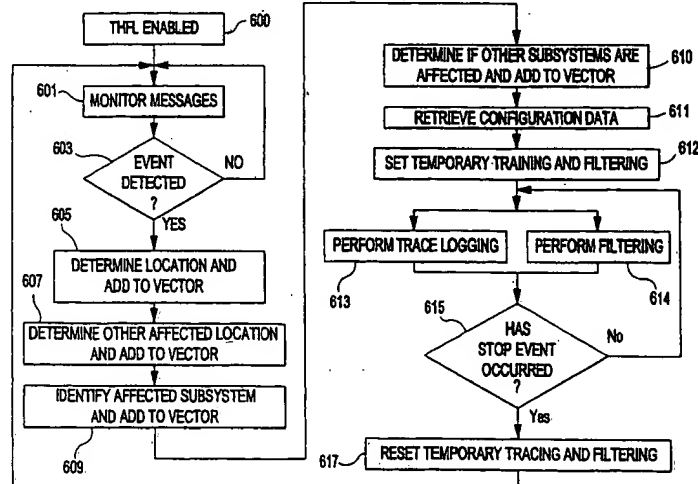
Assistant Examiner—Dustin Nguyen

(74) *Attorney, Agent, or Firm*—Jeffrey S. LaBaw; Anne Vachon Dougherty

(57) **ABSTRACT**

A system and method for implementing tracking of computing system activities wherein the tracking can be dynamically adjusted. The system provides a multiple level logging system having a first level for detecting message level errors and a second trace level for obtaining trace information and for filtering same to provide more details to be used for implementing corrective action. A set of filters is provide to further refine the data which is provided to a user/system administrator. The system also provides for selective activation of tracking and logging for selected subsystems, as well as the ability to vary the frequency at which the tracking is performed. The frequency of logging can be adjusted upward in response to detection of a error and can then be decreased, or the tracking selectively disabled or entirely stopped upon detection of a stop event.

22 Claims, 7 Drawing Sheets



ref

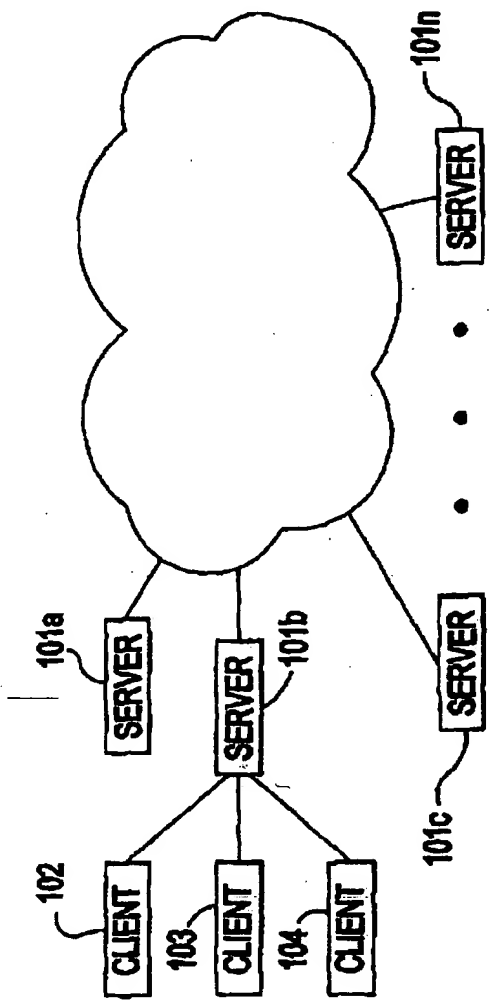


FIG. 1

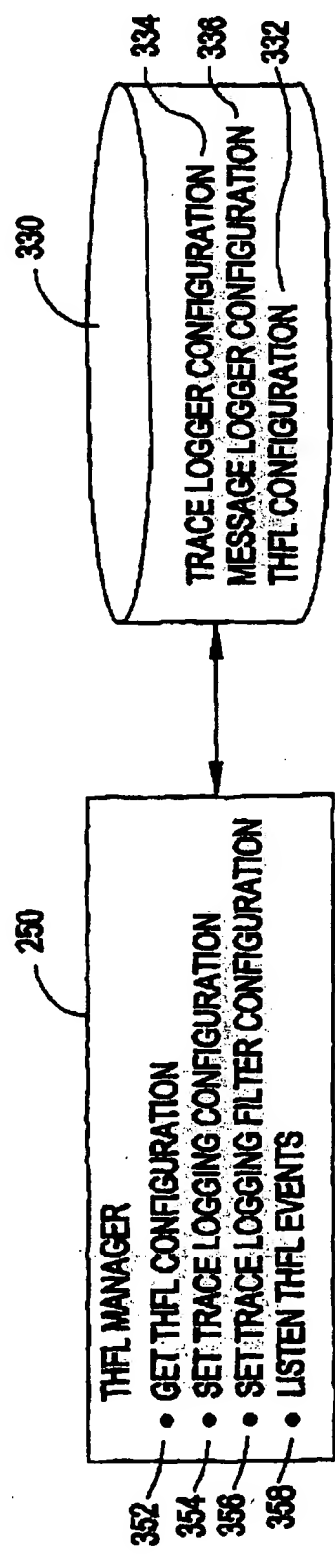


FIG. 3

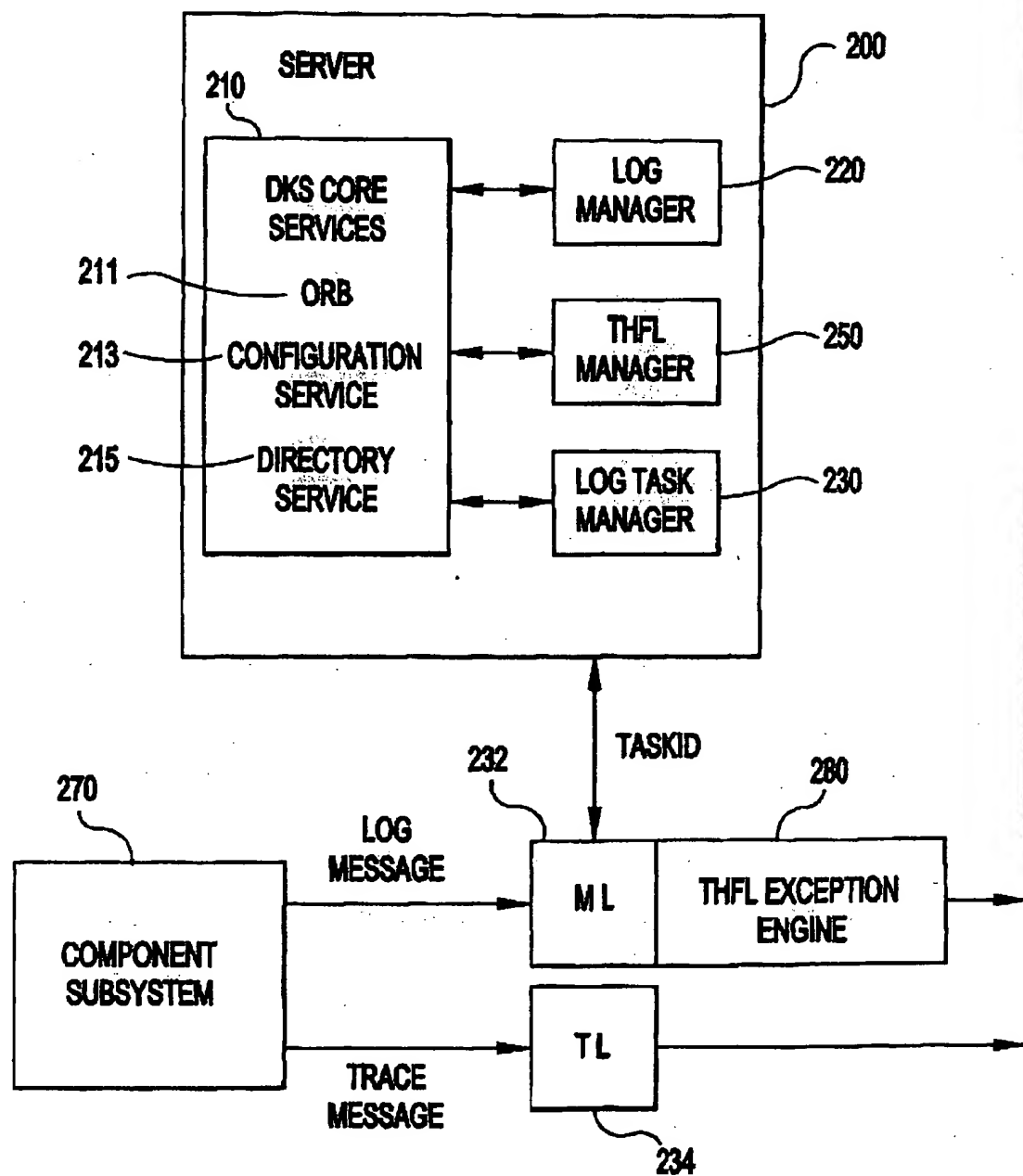


FIG.2A

FIG.2

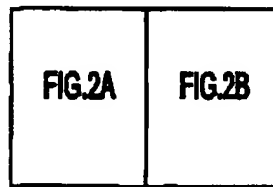
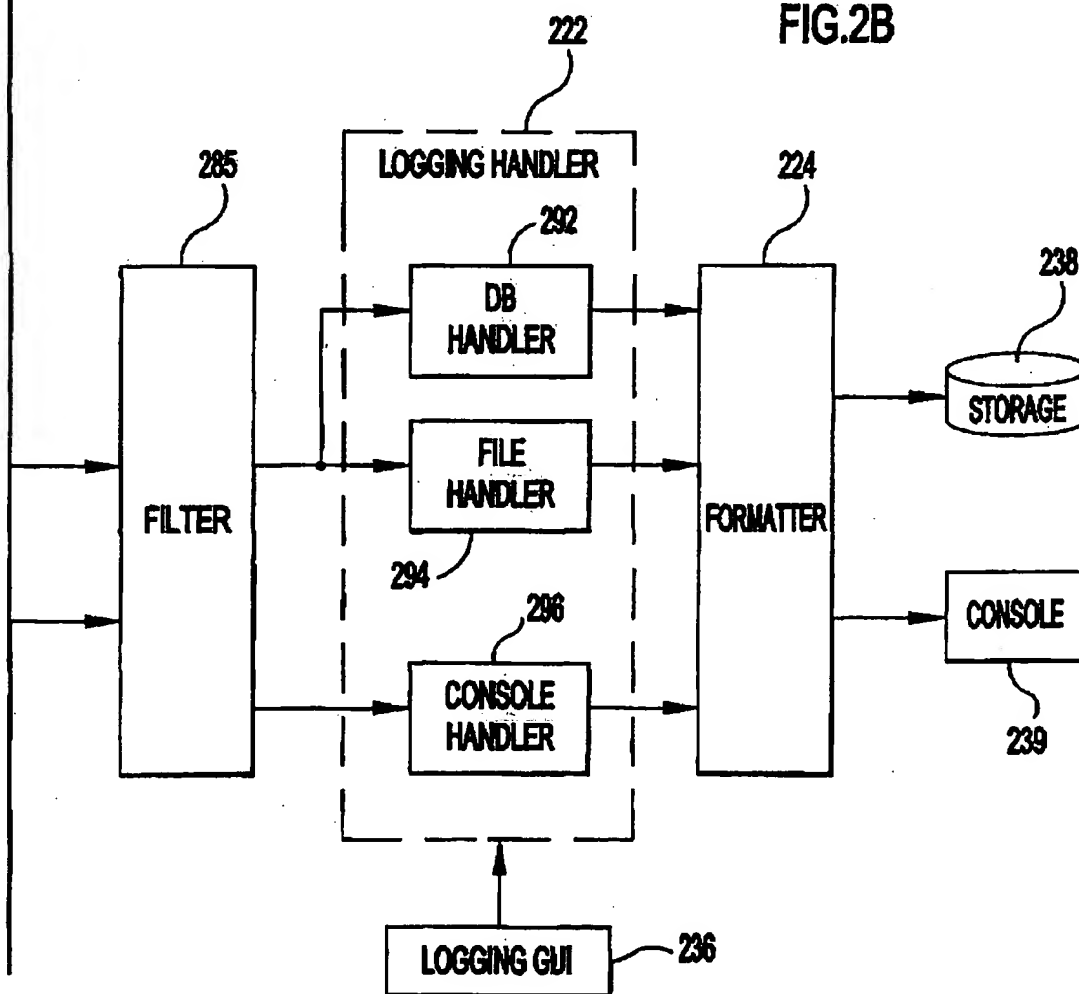


FIG.2B



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✓ Transient High Frequency Logging Configuration GUI

When to Enable Transient High Frequency Logging:

☒ Run Periodic Detection

• Daily

time of day = _____

• Monthly

day of month = _____

• Continuous

Polling interval every _____ minutes

☒ Enable immediately as response to ALL Error Message (very expensive from a performance standpoint)

☒ Select Subsystem(s) which error events turn on temporary tracing

Subsystem DropDown:

Directory
IP Driver
ORB
Etc.

Duration of Transient High Frequency Logging:

☒ (default) 1 hour after error message

☒ Indefinite until Administrator turns off tracing

FIG.4

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FIG. 5A

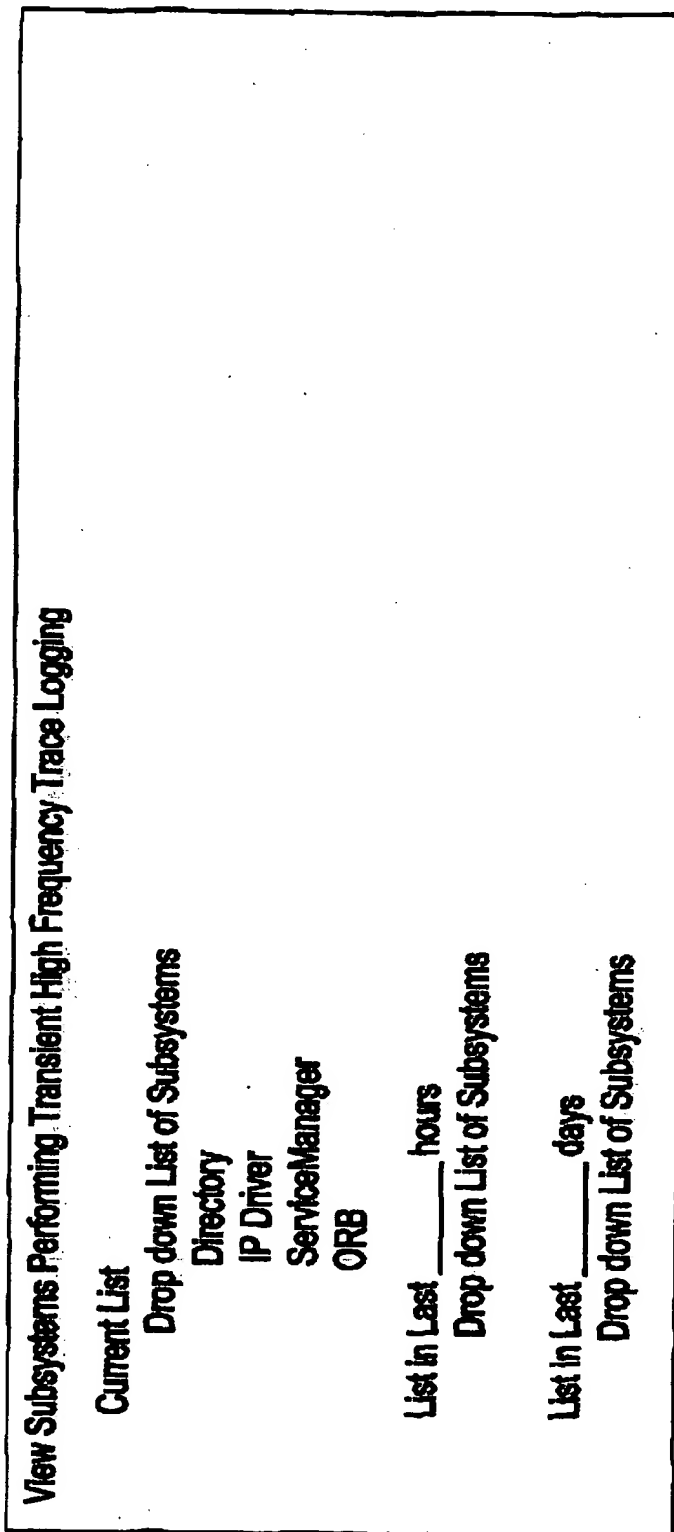


FIG. 5B

Details Views For Each Subsystem

View ErrorMessage that Initiated Increase Logging frequency:

2001.05.16 07:17:41.139 FNGDR3012E The Messaging Service for the directory running on the local ORB was unable to subscribe to event messages. No directory events can be processed by the ORB.

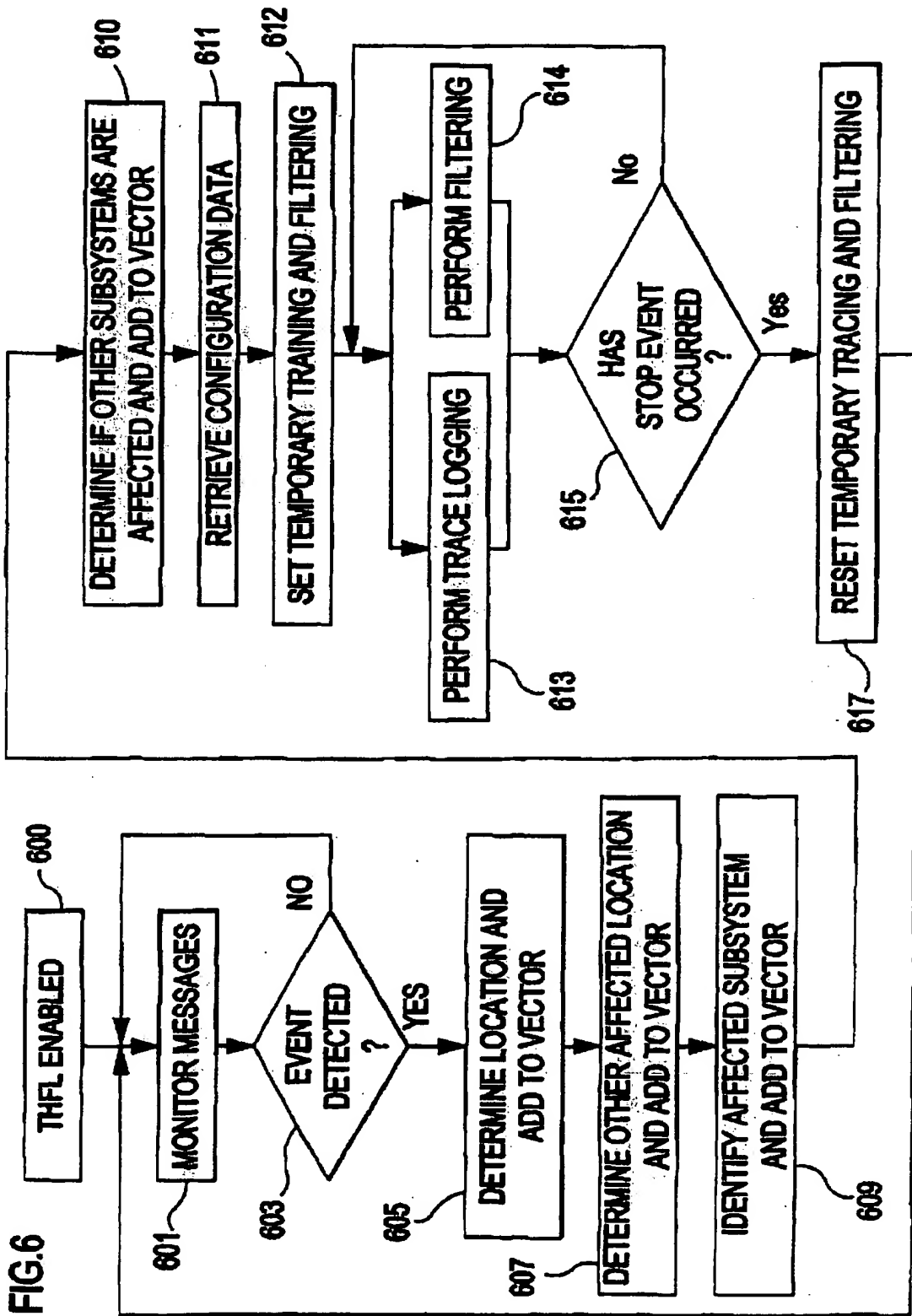
High Frequency Logging Interval 2001.05.16 07:17:41.139 - 2001.05.16 07:17:41.139

View MessageLog Button

View TraceLog Button

View CombinedTimeBoundLog Button

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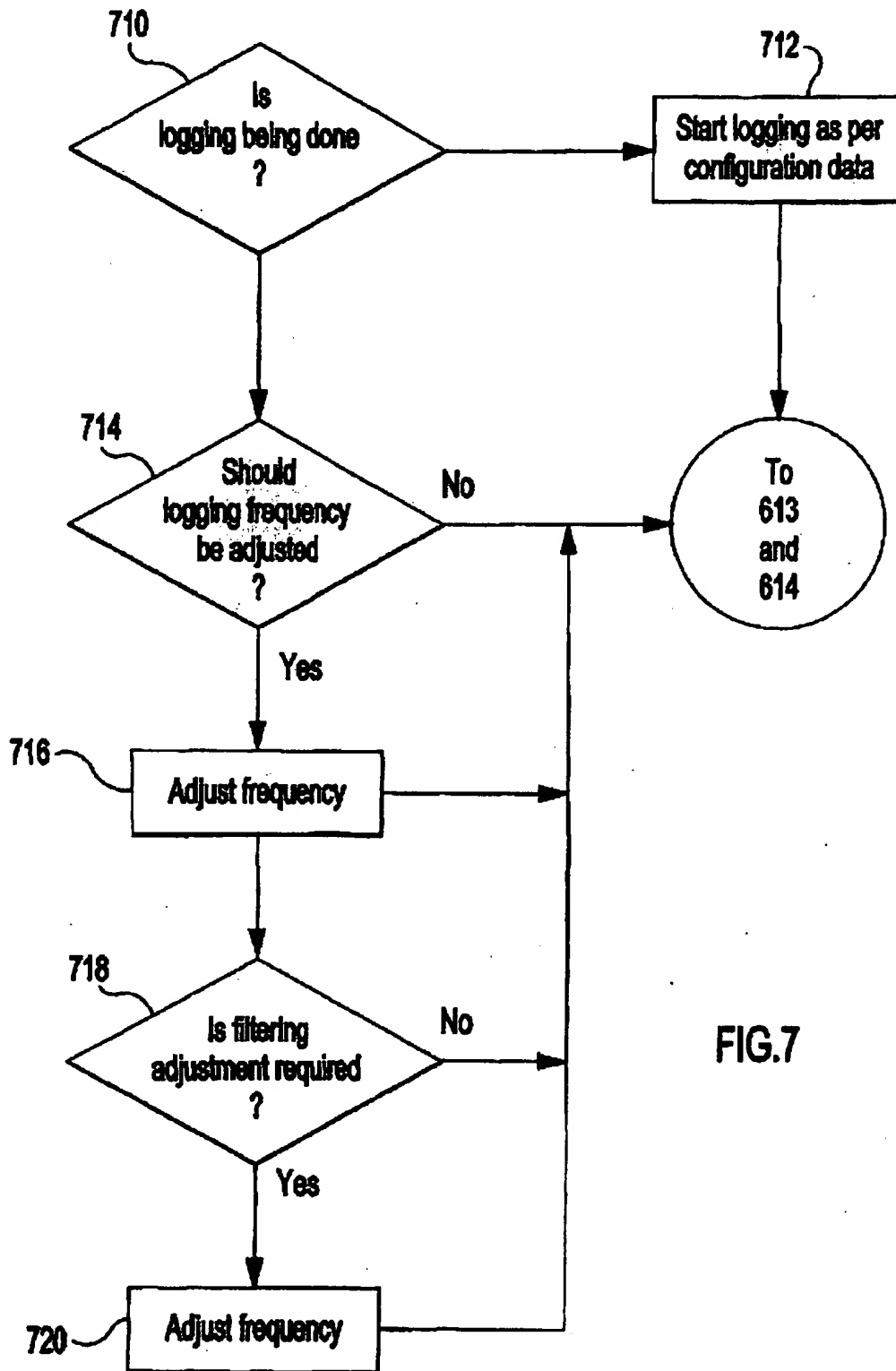


FIG. 7

exp

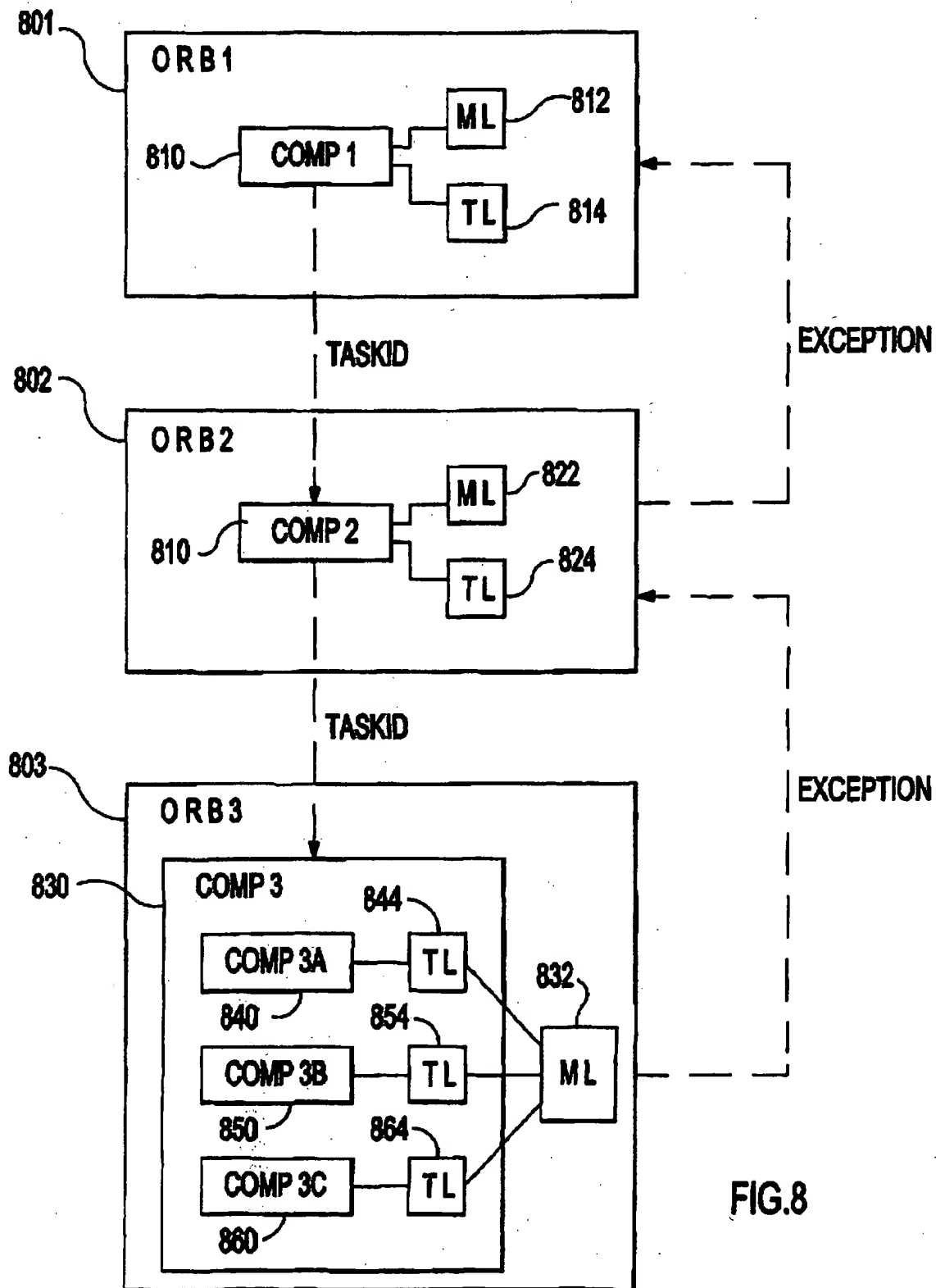


FIG.8